

**Maine Medical Center
Scarborough Campus
Cumberland County
Scarborough, Maine
A-934-71-C-A**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #2**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Maine Medical Center – Scarborough Campus (MMC) of Scarborough, Maine was issued Air Emission License A-934-71-A-N on February 1, 2006, permitting the operation of emission sources associated with their health services campus. This License was amended on October 30, 2006 to correct boiler inputs and generator emission rates.

MMC has requested a modification to their license in order to add one boiler and one emergency generator to their license due to a building expansion project.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (ft³/hr)</u>	<u>Fuel Type</u>	<u>Installation Date</u>
Boiler MMCRI-4	5.50	5240	Natural gas	2008

Electrical Generation Equipment

<u>Equipment</u>	<u>Power Output (hp)</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>
Back-up Generator MMCRI-2	335	2.66	19.4	Diesel, 0.05%

C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the “Significant Emission Levels” as defined in the Department’s regulations. This modification is determined to be a minor modification and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Boiler MMCRI-4

Boiler MMCRI-4 will be installed in 2008 and is rated at 5.5 MMBtu/hr. It is therefore not subject to the New Source Performance Standards (NSPS) Subpart Dc for steam generating units greater than 10 MMBtu/hr manufactured after June 9, 1989.

A summary of the BACT analysis for MMCRI-4 follows:

1. *Low Sulfur Fuel*, 06-096 CMR 106 (last amended June 9, 1999) regulates fuel sulfur content. However, the use of natural gas is more stringent and shall be considered BACT.
2. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (last amended November 3, 1990) regulates PM emission limits. However, the use of natural gas is more stringent and shall be considered BACT. The PM₁₀ limits are derived from the PM limits.
3. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 9/98.

4. Visible emissions from the boilers shall not exceed 10% opacity on a six (6) minute block average basis.

C. Back-up Generator MMCRI-2

Back-up Generator MMCRI-2 will be installed on 2008 and is rated at 2.66 MMBtu/hr.

Back-up generators are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Back-up generators are not to be used for prime power when reliable offsite power is available.

A summary of the BACT analysis for Back-up Generator MMCRI-2 is the following:

1. Chapter 106 regulates fuel sulfur content. However the use of diesel fuel with a maximum sulfur content not to exceed 0.05% by weight is more stringent and shall be considered BACT.
2. Back-up Generator MMCRI-2 shall be limited to 500 hr/yr of operation based on a 12 month rolling total. An hour meter shall be operated and a written log shall be kept for compliance purposes.
3. PM, NO_x, CO, and VOC emission limits are based upon data provided by the manufacturer. The PM₁₀ limits are derived from the PM limits.
4. Visible emissions from Back-up Generator MMCRI-2 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a continuous 3-hour period.

D. Annual Emissions

MMC shall be restricted to the following annual emissions, based on a 12 month rolling total:

Total Licensed Annual Emission for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boilers ASC-1 & 2	1.39	1.39	0.02	2.73	2.29	0.15
Boilers ASC-3 & 4	1.39	1.39	0.02	2.73	2.29	0.15
Hot Water Heaters ASC-1 & 2	0.12	0.12	0.01	1.58	1.33	0.09
Boilers MMCRI-1 & 2	1.32	1.32	0.02	2.58	2.17	0.15
Boiler MMCRI-3	0.88	0.88	0.02	1.72	1.45	0.10
Boiler MMCRI-4	1.20	1.20	0.01	2.30	1.93	0.13
Boiler 98-1	0.07	0.07	0.01	0.91	0.76	0.05
Boiler 98-2	0.75	0.75	0.01	1.46	1.23	0.09
Boiler 96-1, 2, 3 & 4	0.16	0.16	0.02	2.07	1.74	0.12
Generator ASC-1	0.19	0.19	0.08	3.83	1.53	0.10
Generator MMCRI-1	0.06	0.06	0.03	0.62	0.05	0.02
Generator MMCRI-2	0.02	0.02	0.02	0.57	0.05	0.02
Total TPY	7.55	7.55	0.27	23.10	16.82	1.17

* Changes are depicted in **Bold**

III.AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a minor new source shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-934-71-C-A subject to the conditions found in Air Emission License A-934-71-A-N, in amendment A-934-71-B-M, and the following conditions:

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

SPECIFIC CONDITIONS

The following shall replace Specific Conditions 16 and 17 from Air Emission License A-934-71-B-M

(16) Boilers and Hot Water Heaters

- A. Boilers and hot water heaters at MMC's Scarborough Campus shall fire natural gas fuel. Compliance shall be demonstrated by fuel purchase records. [06-096 CMR 115, BACT]
- B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler ASC-1	PM	0.05	MEDEP, Chapter 103, Section 2(B)(1)(a), BACT
Boiler ASC-2	PM	0.05	MEDEP, Chapter 103, Section 2(B)(1)(a), BACT
Boiler ASC-3	PM	0.05	MEDEP, Chapter 103, Section 2(B)(1)(a), BACT
Boiler ASC-4	PM	0.05	MEDEP, Chapter 103, Section 2(B)(1)(a), BACT
Boiler MMCRI-1	PM	0.05	MEDEP, Chapter 103, Section 2(B)(1)(a), BACT
Boiler MMCRI-2	PM	0.05	MEDEP, Chapter 103, Section 2(B)(1)(a), BACT
Boiler MMCRI-3	PM	0.05	MEDEP, Chapter 103, Section 2(B)(1)(a), BACT
Boiler MMCRI-4	PM	0.05	MEDEP, Chapter 103, Section 2(B)(1)(a), BACT
Boiler 98-2	PM	0.05	MEDEP, Chapter 103, Section 2(B)(1)(a), BACT

C. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler ASC-1	0.16	0.16	0.01	0.32	0.26	0.02
Boiler ASC-2	0.16	0.16	0.01	0.32	0.26	0.02
Boiler ASC-3	0.16	0.16	0.01	0.32	0.26	0.02
Boiler ASC-4	0.16	0.16	0.01	0.32	0.26	0.02
Hot Water Heater ASC-1	0.02	0.02	0.01	0.18	0.16	0.01
Hot Water Heater ASC-2	0.02	0.02	0.01	0.18	0.16	0.01
Boiler MMCRI-1	0.15	0.15	0.02	2.58	2.17	0.15
Boiler MMCRI-2	0.15	0.15	0.02	2.58	2.17	0.15
Boiler MMCRI-3	0.2	0.2	0.01	0.40	0.33	0.03
Boiler MMCRI-4	0.28	0.28	Neg.	0.52	0.44	0.03
Boiler 98-1	0.02	0.02	0.01	0.201	0.18	0.02
Boiler 98-2	0.17	0.17	0.01	0.34	0.28	0.02
Boilers 96-1, 2, 3 & 4 (emission limits for each boiler)	0.01	0.01	0.01	0.12	0.10	0.01

D. Visible emissions from each boiler stack shall not exceed 10% opacity on a 6-minute block average basis, except for no more than one 6-minute block average in a 3-hour period. [06-096 CMR 101]

(17) **Emergency Generator MMCRI-2**

- A. MMC shall limit each emergency generator to **500 hours/year** of operation (based on a 12-month rolling total). An hour meter shall be maintained and operated on each emergency generator for compliance purposes. [06-096 CMR 115, BACT]
- B. The emergency generators shall be operated for emergency purposes only, or for short periods to exercise the units and keep them in operating order. A log shall be maintained and updated each time the generators run, documenting the date, time, and reason for their operation. [06-096 CMR 115, BACT]
- C. The emergency generators shall fire diesel fuel with a sulfur content not to exceed 0.05% by weight. Compliance shall be based on fuel receipts and records from the supplier documenting the quantity of fuel delivered and the sulfur content. [06-096 CMR 115, BACT]

D. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator ASC-1	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a), BACT

E. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator ASC-1	0.77	0.77	0.32	15.32	6.10	0.39
Generator MMCRI-1	0.24	0.24	0.14	2.48	0.21	0.08
Generator MMCRI-2	0.10	0.10	0.14	2.27	0.20	0.07

F. Visible emissions from the emergency generators shall each not exceed 20% opacity on a 6-minute block average, except for no more than two (2), six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-934-71-A-N.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 10/17/2007

Date of application acceptance: 12/10/2007

Date filed with the Board of Environmental Protection: _____

This Order prepared by Jonathan Voisine, Bureau of Air Quality.